

CENTRAL MACHINERY®

OSCILLATING SPINDLE SANDER

Model 38160

ASSEMBLY AND OPERATING INSTRUCTIONS



Visit our website at: <http://www.harborfreight.com>



**Read this material before using this product.
Failure to do so can result in serious injury.
SAVE THIS MANUAL.**

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For technical questions or replacement parts, please call 1-800-444-3353.

SAVE THIS MANUAL

Keep this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures. Write the product's serial number in the back of the manual near the assembly diagram (or month and year of purchase if product has no number). Keep this manual and the receipt in a safe and dry place for future reference.

IMPORTANT SAFETY INFORMATION

In this manual, on the labeling, and all other information provided with this product:



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

CAUTION, used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to personal injury.

CAUTION

CAUTION, without the safety alert symbol, is used to address practices not related to personal injury.

General Tool Safety Warnings



WARNING Read all safety warnings and instructions. Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.

Save all warnings and instructions for future reference.

1. KEEP GUARDS IN PLACE and in working order.
2. REMOVE ADJUSTING KEYS AND WRENCHES. Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.
3. KEEP WORK AREA CLEAN. Cluttered areas and benches invite accidents.
4. DON'T USE IN DANGEROUS ENVIRONMENT. Don't use power tools in damp or wet locations, or expose them to rain. Keep work area well lighted.
5. KEEP CHILDREN AWAY. All visitors should be kept safe distance from work area.
6. MAKE WORKSHOP KID PROOF with padlocks, master switches, or by removing starter keys.
7. DON'T FORCE TOOL. It will do the job better and safer at the rate for which it was designed.

8. **USE RIGHT TOOL.** Don't force tool or attachment to do a job for which it was not designed.

RECOMMENDED MINIMUM WIRE GAUGE FOR EXTENSION CORDS (120 VOLT)				
NAMEPLATE AMPERES (at full load)	EXTENSION CORD LENGTH			
	25'	50'	100'	150'
0 – 6	18	16	16	14
6.1 – 10	18	16	14	12
10.1 – 12	16	16	14	12
12.1 – 16	14	12	Do not use.	

TABLE A

9. **USE PROPER EXTENSION CORD.** Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. Table A shows the correct size to use depending on cord length and nameplate ampere rating. If in doubt, use the next heavier gauge. The smaller the gauge number, the heavier the cord.
10. **WEAR PROPER APPAREL.** Do not wear loose clothing, gloves, neckties, rings, bracelets, or other jewelry which may get caught in moving parts. Nonslip footwear is recommended. Wear protective hair covering to contain long hair.
11. **ALWAYS USE SAFETY GLASSES.** Also use face or dust mask if cutting operation is dusty. Everyday eyeglasses only have impact resistant lenses, they are NOT safety glasses.
12. **SECURE WORK.** Use clamps or a vise to hold work when practical. It's safer than using your hand and it frees both hands to operate tool.

13. **DON'T OVERREACH.** Keep proper footing and balance at all times.
14. **MAINTAIN TOOLS WITH CARE.** Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
15. **DISCONNECT TOOLS** before servicing; when changing accessories, such as blades, bits, cutters, and the like.
16. **REDUCE THE RISK OF UNINTENTIONAL STARTING.** Make sure switch is in off position before plugging in.
17. **USE RECOMMENDED ACCESSORIES.** Consult the owner's manual for recommended accessories. The use of improper accessories may cause risk of injury to persons.
18. **NEVER STAND ON TOOL.** Serious injury could occur if the tool is tipped or if the cutting tool is unintentionally contacted.
19. **CHECK DAMAGED PARTS.** Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function – check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.
20. **DIRECTION OF FEED.** Feed work into a blade or cutter against the direction of rotation of the blade or cutter only.
21. **NEVER LEAVE TOOL RUNNING UNATTENDED. TURN POWER OFF.** Don't leave tool until it comes to a complete stop.

GROUNDING INSTRUCTIONS

⚠ WARNING TO PREVENT ELECTRIC SHOCK AND DEATH FROM INCORRECT GROUNDING WIRE CONNECTION READ AND FOLLOW THESE INSTRUCTIONS:

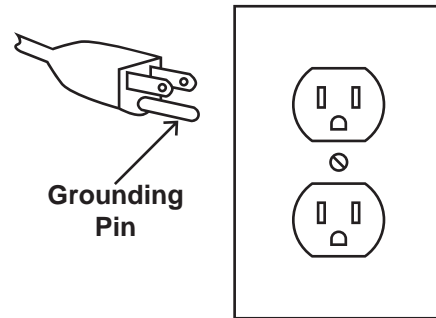


110-120 V~ Grounded Tools: Tools with Three Prong Plugs

1. In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This tool is equipped with an electric cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.
2. Do not modify the plug provided – if it will not fit the outlet, have the proper outlet installed by a qualified electrician.
3. Improper connection of the equipment-grounding conductor can result in a risk of electric shock. The conductor with insulation having an outer surface that is green with or without yellow stripes is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal.
4. Check with a qualified electrician or service personnel if the grounding instructions are not completely understood, or if in doubt as to whether the tool is properly grounded.
5. Use only 3-wire extension cords that have 3-prong grounding plugs and

3-pole receptacles that accept the tool's plug.

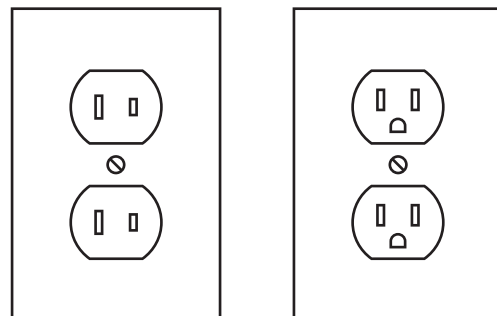
6. Repair or replace damaged or worn cord immediately.



125 V~ 3-Prong Plug and Outlet
(for up to 125 V~ and up to 15 A)

7. This tool is intended for use on a circuit that has an outlet that looks like the one illustrated above in **125 V~ 3-Prong Plug and Outlet**. The tool has a grounding plug that looks like the plug illustrated above in **125 V~ 3-Prong Plug and Outlet**.
8. The outlet must be properly installed and grounded in accordance with all codes and ordinances.
9. Do not use an adapter to connect this tool to a different outlet.

110-120 V~ Double Insulated Tools: Tools with Two Prong Plugs



Outlets for 2-Prong Plug

1. To reduce the risk of electric shock, double insulated equipment has a polarized plug (one blade is wider than

REV 10e

the other). This plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install the proper outlet. Do not change the plug in any way.

2. Double insulated tools may be used in either of the 120 volt outlets shown in the preceding illustration. **(See Outlets for 2-Prong Plug.)**

Sander Safety Warnings

For Your Own Safety Read Instruction Manual Before Operating Sander

1. Wear eye protection.
2. Support workpiece with miter gauge, backstop, or worktable.
3. The backstop is a fence near the surface that helps the operator maintain control of the workpiece and prevents the workpiece from being pulled into the machine. For safety, it must be adjusted very close to the sanding surface.
4. The worktable is the surface mounted close to the sanding surface that the operator rests the workpiece against to prevent it from being pulled by the sanding surface. For safety, it must be adjusted very close to the sanding surface.
5. **DO NOT OPERATE WITH ANY GUARD DISABLED, DAMAGED, OR REMOVED. Moving guards must move freely and close instantly.**
6. The use of accessories or attachments not recommended by the manufacturer may result in a risk of injury to persons.
7. When servicing use only identical replacement parts.
8. Only use safety equipment that has been approved by an appropriate standards agency. Unapproved safety equipment may not provide adequate protection. Eye protection must be ANSI-approved and breathing protection must be NIOSH-approved for the specific hazards in the work area.
9. Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication. A moment of inattention while operating power tools may result in serious personal injury.
10. Industrial applications must follow OSHA guidelines.
11. Maintain labels and nameplates on the tool. These carry important safety information. If unreadable or missing, contact Harbor Freight Tools for a replacement.
12. Avoid unintentional starting. Prepare to begin work before turning on the tool.
13. People with pacemakers should consult their physician(s) before use. Electromagnetic fields in close proximity to heart pacemaker could cause pacemaker interference or pacemaker failure.
14. **WARNING:** Some dust created by power sanding, sawing, grinding, drilling, and other construction activities, contains chemicals known [to the State of California] to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:
 - Lead from lead-based paints
 - Crystalline silica from bricks and cement or other masonry products
 - Arsenic and chromium from chemically

treated lumber

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles. (California Health & Safety Code § 25249.5, *et seq.*)

15. **WARNING:** Handling the cord on this product will expose you to lead, a chemical known to the State of California to cause cancer, and birth defects or other reproductive harm. Wash hands after handling. (California Health & Safety Code § 25249.5, *et seq.*)
16. The warnings, precautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.



SAVE THESE INSTRUCTIONS.

SPECIFICATIONS

Electrical Input	120 V~ / 60 Hz / 11 A
Motor No Load Speed	1787 RPM
Oscillations per Minute	58 OPM
Oscillation Travel	7/8"
Sanding Belt Capacity	3/4" - 2"
Sanding Belt Height	4-1/2"
Sanding Thickness	3/16 - 11/16"
Dust Collection Port	2"
Table Tilt Angle	0 - 45°

UNPACKING

When unpacking, make sure that the item is intact and undamaged. If any parts are missing or broken, please call Harbor Freight Tools at 1-800-444-3353 as soon as possible.

To Change/Install Sand Belts

(See Parts Diagram and Parts List on pages 8 and 9)

Place switch in “OFF” position, and unplug the sander before performing any of the steps below.

The Oscillating Sander has been shipped completely assembled with a 2” sand belt (#49) and regular core board installed. Change sand belts as follows:

TO REMOVE SAND BELT

1. Grasp and hold sand belt (#49) on rotating axle (#46). Loosen nut (#51). If nut is too tight and rotating axle spins inside sand belt, secure the rotating axle with a wrench and loosen nut.
2. Remove nut, big washer (#50), and sand belt. Unscrew rotating axle clockwise and remove core board (#36) - also see instructions below describing how to remove core board.
3. Remove big washer (#50) and clean sawdust accumulation.

TO INSTALL SAND BELT

1. Replace big washer (#50). Fin side of washer should always be installed down. The fins help push sawdust through the dust exhaust port opening, preventing buildup of sawdust. Sawdust buildup in this area may cause the oscillating motion to stop. The big washer must be used with **all** sanding sleeves.
2. Select and install the desired rotating axle.
3. Install appropriate sand belt on the rotating axle. (**Note:** *If sanding sleeve becomes difficult to install or remove, apply talcum powder on the inside of the sand belt before installing on axle.*)
4. Install big washer (#50) and nut.
5. Grasp and hold sand belt and tighten nut. Do not overtighten.

Replacing Core Boards

The Oscillating Sander comes with two core boards. The core board with the circular opening is for sanding when the working table (#34) is level. The core board with the oblong opening is to be used when the working table is set at an angle.

To Remove Core Boards

Push firmly from underneath the working table until core board is removed.

To Insert Core Boards

1. Align the notch in the core board with the spring dowel (#35) located on the inner rim of the core board insert area.
2. Push down firmly until the core board is fully inserted and flush with the surface of the working table.

Preparing For Operation

Note:

- √ This sander is designed for use on plastic and wood surfaces only. Do not use this sander for sanding metals. Sanding metals will cause sparks that will ignite wood and dust particles on sander, in the dust collector, or in workshop.
- √ It is recommended that this tool not be used for extended work on any fiberglass or abrasive materials. It has been found that those materials are subject to accelerated wear and possible premature failure, as the fiberglass chips and grindings are highly abrasive to bearings, brushes, commutator, etc. During any sanding of these materials, it is important the tool be cleaned frequently by blowing with an air jet.
- √ Do not use sander without a sand belt. Doing so will damage the rotating axle.
- √ Make sure nut on the top of the rotating axle is tightened securely - but not overtightened.

SAND BELT SELECTION

Selecting the correct size diameter, type of grit and sanding sleeve is an extremely important step in achieving a high quality finish:

- √ Aluminum oxide, silicon carbide, and other synthetic abrasives are best for power sanding.
- √ Natural abrasives, such as flint and garnet are too soft for use in power sanding.

Select and install the desired sand belt for the particular application. Sand belts from 3/4"- 2" can be used with this sander. Choose one that is close in size to the material you are sanding.

GRIT SELECTION

The condition of the surface to be sanded will determine which grit will do the proper job. In general, **coarse grit** will remove the most material. **Finer grit** will produce the best finish in all sanding operations. If the surface is rough, start with a **coarse grit** and sand until the surface is uniform. **Medium grit** may then be used to remove scratches left by the coarser grit and **finer grit** used for finishing of the surface. Always continue sanding with each grit until the surface is uniform.

WARNING! Do not use water with this sander. It is for dry sanding only. Wet sanding will damage the machine, and may present a shock hazard. Use only in dry locations.

Operation

Exercise caution! Never force the material into the sander. You will become familiar with the sander's features from practice and use. If possible, practice sanding with a scrap piece of wood.

ADJUSTING TABLE ANGLE

1. If working table is to be used at an angle, make sure to install the angle core board (with the oblong-shaped opening) before sanding.
2. Loosen dial knob (#32) and adjust working table to the desired angle using the numbers on the rotating plate (#31) as a guide.
3. Tighten dial knob securely so that the working table will not move during operation.

SANDING

1. Turn sander on.
2. Let the motor build to its full speed, then gradually feed material against sanding sleeve. Do not let the material contact sanding sleeve before turning on sander and allowing it to develop full speed.

FEED DIRECTION

When sanding, the sanding sleeve rotates counterclockwise. Therefore, feed the material against the sanding sleeve from right to left. When fed from right to left, the rotation of the sanding sleeve sands against the material. If fed in the opposite direction, the rotation forces of the spinning sanding sleeve will tend to throw or bounce the material away from the sanding sleeve. This could cause loss of control of the material.

DUST COLLECTION CAPABILITY

A standard 2-1/4" dust collect cover (#40) has been provided to make dustless sanding possible. The dust collection port is located under the working top on the rear side of the sander. The pickup adapter end of a vacuum hose (not included) will fit inside the dust collect cover.

Even with a dust collection system, it is necessary to periodically clean sanding dust from the core board and big washer areas. Sanding dust buildup in this area may cause the core board surface to rise above the working table surface.

Maintenance

CLEANING: Regularly clean the work surface with dry brush or clean cloth. Clean sawdust accumulations from core board, big washers and rotating axle after each use.

LUBRICATION: No lubrication is required. All of the bearings in this tool are lubricated with a sufficient amount of high grade lubricant for the life of the machine under normal operating conditions.

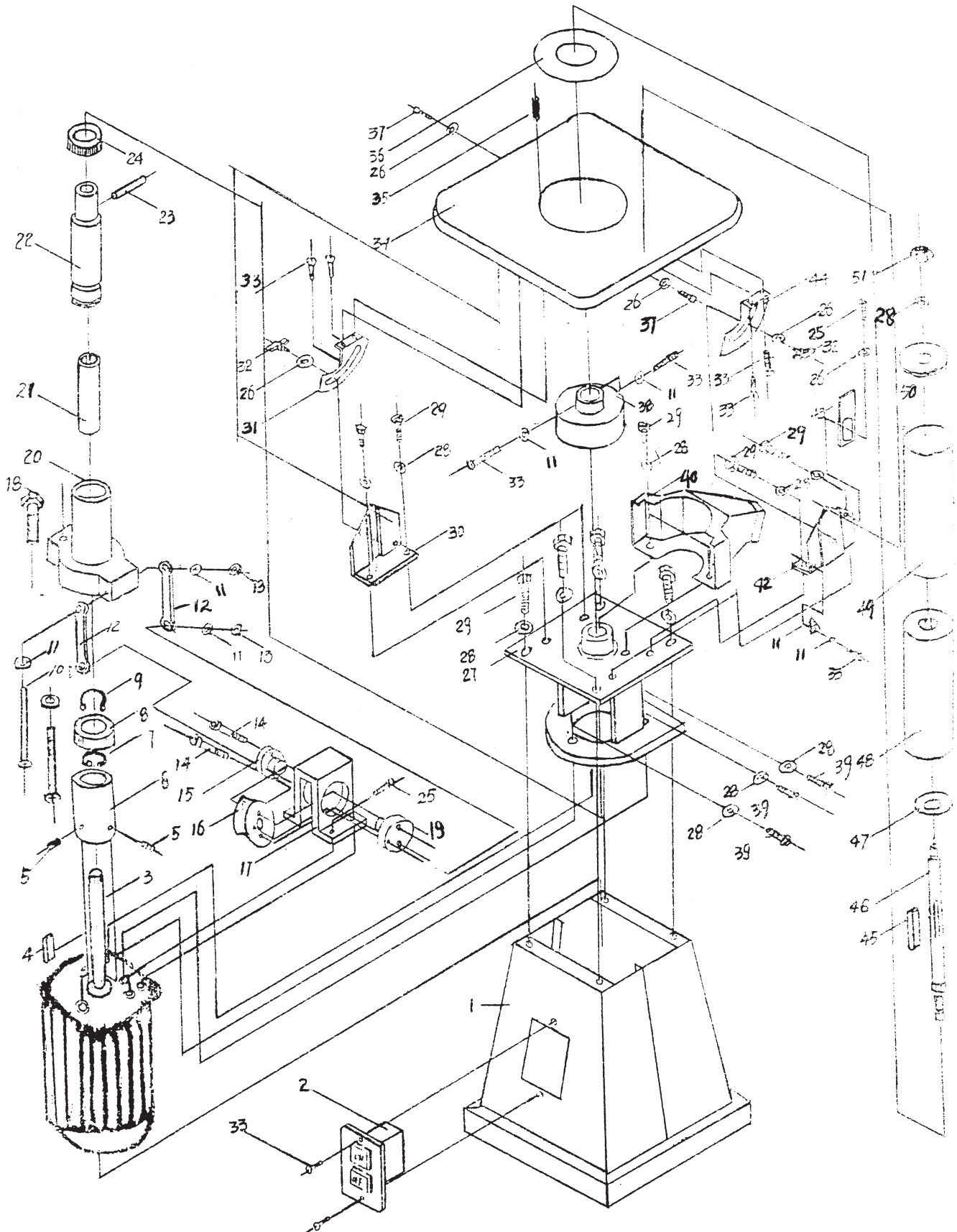
POWER CORD: Inspect the power cord periodically, and if damaged, have it repaired by an authorized technician.

REPLACEMENT PARTS: When servicing, use only identical replacement parts. Use of any other parts will void the warranty.

Parts List

No. tity	Name	Quantity	No.	Name	Quan-
1	Stand	1	29	Hexagon-headed bolt M8x20	6
2	Switch	1	30	Stand 1 of working table	1
3	Vertical Motor	1	31	Rotating Plate	1
4	Key of Motor	1	32	Parts of Dial Knob	2
5	Clamp Nail	2	33	Crossed Disc Nail M5 x 8	7
6	Worm	1	34	Working Table	1
7	Spring Ring for Hole 55	1	35	Spring Dowel 3 x 8	1
8	Bearing 80106	1	36	Core Board	2
9	Spring Ring for Axle 32	1	37	Hexagonn Socket Head Cap	
10	Cross Head Disc Nail M5 x 55	2		Screw M6 x 20	2
11	Screw Washer 5 Holee 55	11	38	Dust Cover	1
12	Rocker Arm	2	39	Hexagon-headed bolt M8 x 25	7
13	Nut M5	4	40	Dust Collect Cover	1
14	Hexagon Socket Head Cap		41	Pointer	1
	Screw M4 x 30	2	42	Stand II of Working Table	1
15	Left Core Axle of Worm Wheel	1	43	Stand Board	1
16	Worm Wheel	1	44	Dial	1
17	Stand of Worm Wheel	1	45	Key 5 x 50	1
18	Screw M8 x 65	1	46	Rotating Axle of Sand Belt	1
19	Right Core Axle of Worm Wheel	1	47	Big Washer I	1
20	Guide Pole	1	48	Rubber Cylinder	1
21	Shuttle Axle Cover	1	49	Sand Belt	1
22	Shuttle Axle	1	50	Big Washer II	1
23	Spring Dowel 4 x 30	1	51	Left Nut M8	1
24	Bearing 61804	1	52	Board of Switch	1
25	Hexagon Socket Head Cap		53	Nut M8	4
	Screw MG x 16	5	54	Washer Nut M8	4
26	Spring Washer 8	7	55	Rubber Washer	4
27	Frame to Fix Motor	1			
28	Screw Washer	14			

Assembly Diagram



LIMITED 1 YEAR / 90 DAY WARRANTY

Harbor Freight Tools Co. makes every effort to assure that its products meet high quality and durability standards, and warrants to the original purchaser that for a period of ninety days from date of purchase that the engine/motor, the belts (if so equipped), and the blades (if so equipped) are free of defects in materials and workmanship. Harbor Freight Tools also warrants to the original purchaser, for a period of one year from date of purchase, that all other parts and components of the product are free from defects in materials and workmanship (90 days if used by a professional contractor or if used as rental equipment). This warranty does not apply to damage due directly or indirectly, to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities, normal wear and tear, or to lack of maintenance. We shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS.

To take advantage of this warranty, the product or part must be returned to us with transportation charges prepaid. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection verifies the defect, we will either repair or replace the product at our election or we may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

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